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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,217	04/14/2004	Christopher John Stephenson	020569-03403/P202-1230B-U	6286

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EXAMINER	
FEELY, MICHAEL J	

ART UNIT	PAPER NUMBER
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,217	STEPHENSON ET AL.	
	Examiner	Art Unit	
	Michael J. Feely	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *106-110,112,114-116,119,121-131,135-140,142,144,145,150-154 and 160-180* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 106-110,112,114-116,119,121-131,135-140,142,144,145,150-154 and 160-180.

DETAILED ACTION

Pending Claims

Claims 106-110, 112, 114-116, 119, 121-131, 135-140, 142, 144, 145, 150-154 and 160-180 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 15, 2008 has been entered.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The rejection of claims 106-110, 112, 114-116, 119, 121-131, 135-140, 142, 144, 145, 150-154, 160, and 169-180 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rickards et al. (US Pat. No. 6,059,034) *stands*.

Regarding claims ***106****-110, 112, 116, 119, and 123-129*, Rickards et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material treated with a liquid resin, plastic, cement, sealant, or binder, wherein the porous particulate material has inherent or induced permeability and is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters* (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*).

They fail to disclose the instantly claimed properties; however all chemical/material limitations have been satisfied. In light of this, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that Rickards et al. would have inherently taught all of the instantly claimed properties.

Regarding claims ***130****, 131, 135, and 136*, Rickards et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material coated or penetrated with a liquid resin,*

plastic, cement, sealant, or binder, wherein the porous particulate material has inherent or induced permeability and is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*).

They fail to disclose the instantly claimed properties; however all chemical/material limitations have been satisfied. In light of this, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that Rickards et al. would have inherently taught all of the instantly claimed properties.

Regarding claims 137-140, Rickards et al. inherently satisfy the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material having inherent or induced permeability which is treated or modified with a glassy glazing material* (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*). Any of these deformable material layers, particularly polycarbonate, would have inherently satisfied *a "glassy" glazing material*.

Furthermore, they fail to disclose the instantly claimed properties; however all chemical/material limitations have been satisfied. In light of this, it has been found that,

"Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that Rickards et al. would have inherently taught all of the instantly claimed properties.

*Regarding claims 114, 115, 121, 122, 160, and **169**-179*, Rickards et al. satisfy all the material/chemical limitations if the instantly claimed *selectively configured porous particulate material comprising a porous particulate material having inherent or induced permeability and which is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters, and further when the selectively configured porous particulate material comprises a multitude of the porous particulate material bonded together* (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*).

They fail to disclose the instantly claimed properties; however all chemical/material limitations have been satisfied. In light of this, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that Rickards et al. would have inherently taught all of the instantly claimed properties.

*Regarding claims 142, 144, 145, 150-154, and **180***, Rickards et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate having inherent or induced permeability and treated with nylon, polyethylene, polystyrene or a mixture thereof, wherein the porous particulate material is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters* (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*).

They fail to disclose the instantly claimed properties; however all chemical/material limitations have been satisfied. In light of this, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that Rickards et al. would have inherently taught all of the instantly claimed properties.

Claim Rejections - 35 USC § 103

5. Claims 161-168 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickards et al. (US Pat. No. 6,059,034).

*Regarding claims **161-168***, the teachings of Rickards et al. are as set forth above an incorporated herein. They fail to disclose the claimed coating thickness of about 1 to about 5

microns. Rather, they disclose, "A deformable layer or coating around a substantially non-deformable particle core may be *any thickness suitable* for allowing deformation of the layer upon contact with fracture proppant materials under closure stress. However, typically thickness of such layer/s are limited such that deformation under anticipated formation closure stress does not result in damage to conductivity due to excessive deformation and impingement into fracture proppant pack pore spaces. In this regard, a layer/s of deformable material typically is thick enough to provide a coating sufficient for reducing proppant flowback and/or fines generation by allowing adjacent relatively hard fracture proppant material to embed in the layers of deformable material without substantially reducing porosity or conductivity of the proppant pack," *(see column 18, lines 21-35)*.

In light of this, it has been found that, "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation," –*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a coating thickness of about 1 to about 5 microns in Rickards et al. because they demonstrate that this thickness is a result effective variable, wherein any suitable thickness can be used.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. The rejection of claims 106-110, 112, 114-116, 119, 121-131, 135-140, 142, 144, 145, 150-154, and 160-180 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 95-97 of U.S. Patent No. 6,059,034, in light of the specification *stands*.

Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims with components, as defined in the specification (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*), would have inherently or obviously satisfied the instant invention – *See: In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970); MPEP 804, II, B, 1.

Response to Arguments

8. Applicant's arguments filed December 15, 2008 have been fully considered but they are not persuasive.

Argument 1: on pages 9-10 of the response, Applicant contends that the Examiner has interpreted the claims broader than defined in Applicant's specification. Specifically, Applicants insist that the instantly claimed materials are based on a single particle - not an agglomerate particle. The Examiner respectfully disagrees.

First, it should be noted that an agglomerate particle behaves and is classified *(particle size, surface area, density, particle size distribution, etc.)* the same way as a discrete (singular, non-agglomerated) particle. Accordingly, to treat the word *particulate* as a material embracing both agglomerate particulates and discrete (singular, non-agglomerated) particulates is not an overbroad reading.

Secondly, Applicant should take note of the following passage from the specification: "The selectively configured porous particulate material *may consist of a multitude of coated particulates bonded together*. In such manner, *the porous material is a cluster of particulates coated with a coating or penetrating layer or glazing layer*. Suitable coating layers or penetrating materials include liquid and/or curable resins, plastics, cements, sealants, or binders such as a phenol, phenol formaldehyde, melamine formaldehyde, urethane, epoxy resin, nylon, polyethylene, polystyrene or a combination thereof," *(see page 4, line 30 through page 5, line 5; or paragraph 0018 of the pre-publication)*. This cluster is an *agglomerate*, and this cluster/agglomerate constitutes Applicant's instantly claimed *selectively configured porous particulate material*. Accordingly, to treat the word *particulate* as a material embracing both

agglomerate particulates and discrete (singular, non-agglomerated) particulates is not an overbroad reading because Applicant explicitly embraces cluster/agglomerate materials.

Argument 2, on page 10 of the response, Applicant contends that the (partially filled) porosity of the prior art particles does not suggest that the agglomerates exhibit inherent or induced permeability. The Examiner respectfully disagrees.

These particles feature open or partially open pore spaces. It is the Examiner's position that these open or partially open pore spaces do indeed suggest inherent permeability. This is because porous materials are typically classified as permeable materials, wherein gas or liquid can permeate the open or partially open pores.

Argument 3, on page 10 of the response, Applicant contends that the prior art only discusses porosity of the proppant pack. The Examiner respectfully disagrees.

Applicant has turned a blind eye to the porous nature of the materials taught in the prior art. These materials are explicitly described with respect to "pore spaces" within the particulate *(see Figure 30; column 20, lines 30-56)*.

Argument 4, on page 10 of the response, Applicant critiques the Examiner's interpretation of *apparent specific gravity*. The Examiner respectfully disagrees.

Specific gravity is a ratio of {substance density / water density}. Accordingly, the density of a substance can be expressed by {substance specific gravity x water density}. Furthermore, it can be established that the apparent specific gravity is a ratio of {substance apparent density / water apparent density}, and apparent density of a substance can be expressed by {substance apparent specific gravity x water apparent density}. Considering the density and

apparent density of water is 1 g/cm^3, the apparent density and apparent specific gravity of a substance are numerically the same.

Furthermore, the Examiner's previous discussion of apparent density is indeed accurate, wherein apparent density is a gravity-influenced packing density. The material is gravity-fed into a specified volume, and weighed to determine a mass per volume. This is apposed to a packing density or *tap*-density, wherein the material is physically packed in to a measured volume. Essentially, the specified volume contains voids (air) and particulate, and the measured mass accounts for only the particulate mass within the specified volume. This concept appears to be essentially the same as the one suggested by the Applicant.

Argument 5, on page 11 of the response, Applicant contends that the combination of deformable particulate and substantially non-deformable material would not exhibit the claimed physical properties of Applicant's materials. The Examiner respectfully disagrees.

The patented claims do feature a composition featuring blend of materials. The deformable particulate materials in this composition, in light of the specification, do not appear to be materially distinct from the instantly claimed materials. In light of this, one would expect them to have the same properties. There is nothing to suggest the patented blend would somehow negate these characteristics.

Conclusion

9. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

February 16, 2009